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THERMAL TRANSFORMATION OF THE MOBILE-HYDROCARBON COMPOSITION OF DOMANIK DEPOSITS OF VOLGA-URAL OIL- AND GAS-BEARING PROVINCE

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Transformation mechanisms of the mobile-hydrocarbon composition of rock samples from the Domanik deposits of the Volga-Ural oil-and-gas-bearing province (OGP) are established. IR spectra of extracts obtained from the rock and of resins and asphaltenes after heat treatment are analyzed. The aromaticity of the asphaltenes increases to a maximum at 250°C due to degradation of aliphatic substituents and condensation of aromatic rings under radical-recombination conditions. This correlates with group-analysis results indicating that the maximum asphaltene content is observed at this temperature. Transformation of the mobile-hydrocarbon composition is associated with transformations of the composition and structure of the insoluble organic matter kerogen. The degree of maturity of organic matter of the Domanik deposits is characteristically low, increases steadily with increasing temperature, and reaches a maximum at 350°C.

Keywords: *Domanik producing deposits, organic matter, kerogen, bitumoid, heat treatment, group analysis.*

Alternative energy sources cannot satisfy all demands for hydrocarbons. Reserves of traditional readily accessible oil are decreasing and new large oil deposits have not been discovered since the 1970s. The oil-refining sector is switching its attention more and more to nonconventional hydrocarbons to supply the growing demands of civilization for energy. Shale and highly viscous bituminous oils are

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